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VINCENT S. OLESKIEWICZ
(312) 861-3737

August 14, 1998

BY HAND DELIVERY

Mr. Mort P. Ames
Assistant Corporation Counsel
Department of Law
City of Chicago
30 N. LaSalle Street
Suite 900
Chicago, IL 60602-2580

Re: Lindsay Light II Site
MCL Companies/Kerr-McGee Chemical Corporation

Dear Mr. Ames:

I have enclosed a revised draft Right-of-Way Agreement between the City of Chicago and MCL/Kerr-McGee relating to the above-referenced Site. This enclosed draft reflects the revisions of both Kerr-McGee and MCL to the Right-of-Way Agreement which you attached to your letter of October 9, 1997.

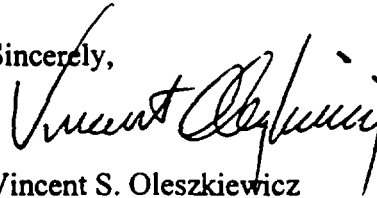
I apologize for the delay in getting this document to you. As we have discussed, I had hoped that the planned construction at the Site would eliminate all potential contamination, including the minor contamination areas located in the City right of way, and thus obviate the need for any Agreement. However, it appears that the current development plan does not call for the removal of the existing contamination at locations near Illinois Street and Columbus Drive. Therefore, the Right-of-Way Agreement with the City appears necessary.

BAKER & MCKENZIE

Mr. Mort P. Ames
August 14, 1998
Page Two

Please review the Agreement and call me to discuss any questions you may have. Thank you for your cooperation in this matter.

Sincerely,



Vincent S. Oleszkiewicz

VSO/sb

Enclosures

cc: Richard Meserve, Covington & Burling, Counsel for Kerr-McGee (w/encl.) ✓
Mary Fulghum, USEPA Region 5 (w/encl.)
Kevin Augustyn, MCL Companies (w/encl.)

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08/14/98 9:30 AM

DRAFT ONLY

DRAFT: June 17, 1998

RIGHT-OF-WAY AGREEMENT

This Agreement is entered into this ____ day of _____, 1998 by and among River East, LLC ("River East") and Kerr-McGee Chemical LLC ("Kerr-McGee"), together referred to herein as the Potentially Responsible Parties ("PRPs"), and the City of Chicago ("City"), as follows:

1. This Agreement is not binding on the City until it is executed by a duly authorized representative of the City. Prior to execution, this Agreement constitutes an offer by the PRPs. The duly authorized representatives of the PRPs have signed this Agreement, and this Agreement is binding upon them, their successors and assigns, upon execution by the City.

2. The PRPs stipulate:

a. The Site is located at 316 E. Illinois Street, Chicago, Illinois ("the Site"). River East is the current owner of the Site. The Site is, and has been for multiple decades, an asphalt-paved parking lot. The Site is bounded by Grand Avenue, McClurg Court, Illinois Street and Columbus Drive, and is legally described in Attachment A.

b. On June 3, 1993, the United States Environmental Protection Agency ("USEPA") and the Illinois Department of Nuclear Safety ("IDNS"), conducted a joint investigation at the Site and verified the presence of

radioactivity below the asphalt surface of the Site at levels above natural background. USEPA determined that the use of the Site as a parking lot posed negligible risk to the public.

c. A historical record search determined that in the 1920s and 1930s a company known as Lindsay Light Company leased the Site for the processing of thorium ores. Lindsay Light is a predecessor of Kerr-McGee. An ingredient in gas mantel manufacturing is thorium extracted from sand and formed into a solution into which mantels were dipped during the manufacturing process. It is believed that Section 11e.2 material, 42 U.S.C. § 2014(e)(2) ("Thorium Residuals"), from this processing process is found at and around the Site.

d. On January 27, 1994, The Chicago Dock & Canal Trust ("Chicago Dock") (a predecessor to River East) entered into an Administrative Order by Consent ("AOC") with the USEPA to investigate and study the extent of Thorium Residuals at the Site. The study was completed in May, 1994, a final report concerning the extent of contamination was delivered to USEPA on October 17, 1995, and the study was approved by USEPA on March 13, 1996. The final report concluded, inter alia, that there were twelve subsurface areas at the site which exhibited elevated gamma radiation levels. The AOC is Attachment B.

e. On June 6, 1996, the USEPA issued a Unilateral Administrative Order ("UAO") to Chicago Dock and Kerr-McGee directing that a removal action be conducted at the Site

pursuant to Section 106(a) of the Comprehensive, Environmental Response, Compensation and Liability Act of 1980, as amended, ("CERCLA"), 42 U.S.C., §9606(a). The UAO established criteria (the "Cleanup Criteria") for Thorium Residuals of 7.1 picoCuries per gram total radium -- 5 picoCuries per gram total radium above background. The UAO is Attachment C.

f. Pursuant to the UAO and with the approval of USEPA, Chicago Dock and Kerr-McGee conducted and completed a removal action at the Site. This remediation took several months during CY1996 and 1997 and involved the removal and disposal of soils from the Site.

g. During the removal action, testing along Illinois Street and Columbus Drive revealed minor deposits of Thorium Residuals which could not be readily excavated. Information regarding the known location of this contamination was provided to the City during a meeting on June 26, 1997, and in subsequent correspondence dated July 14, 1997. Portions of Illinois Street and Columbus Drive, described in Attachment D, are the subject of this Agreement.

h. Although previously provided to the City as described above, attached as Attachment E is a site map showing the area of the impacted soil in the rights-of-way where, at the time of this Agreement, Thorium Residuals may exceed the Cleanup Criteria for Thorium Residuals established by USEPA in the UAO. Also attached as Attachment F is a table

showing the concentration of Thorium Residuals within the area described in Attachment E.

i. The limited risk associated with Thorium Residuals in the right-of-way and the public inconvenience associated with their excavation justify this Agreement.

3. The City stipulates that it holds the rights-of-way described in Attachment D in trust for the public and has jurisdiction over the rights-of-way.

4. As authorized by the Municipal Code of the City of Chicago Section 10-20-010 ("Code"), the City agrees that it will limit access to soil as described herein under the portions of the rights-of-way described in Attachment D that exceed USEPA Cleanup Criteria, subject to the following conditions:

a. The City does not agree to maintain the right-of-way, nor does it guarantee that the right-of-way will continue as a roadway or that the right-of-way will be maintained as an engineered barrier.

b. This Agreement does not in any way limit the authority to construct, reconstruct, repair or maintain and operate a right-of-way upon the property identified in Attachment D or to allow others to use the right-of-way. In the event the City decides to undertake or authorize excavation in the portion of Illinois Street or Columbus Drive described in Attachment D and unless an emergency requires immediate action by the City, the City shall give the PRPs

sixty days notice of the need to conduct an excavation in the affected portion of the right-of-way, so as to allow the PRPs to remove or dispose of the Thorium Residuals. If the City undertakes such work, it will identify, investigate, and remove Thorium Residuals above the Cleanup Criteria from the right-of-way identified in Attachment D and will dispose of them in accordance with applicable USEPA regulations. The PRPs shall reimburse the reasonable costs incurred by the City in so identifying, investigating, removing, storing, handling or disposing of the Thorium Residuals. There is a rebuttable presumption that any Thorium Residuals found in the portions of the rights-of-way described in Attachment D arose from the release of Thorium Residuals from the Site. If the PRPs fail to reimburse the City for the costs identified here, this Agreement shall be null and void and the City may seek such remedies as may be available to the City by law.

5. The City agrees that it will notify any person seeking to undertake excavation in portions of Illinois Street or Columbus Drive described in Attachment D of the possible presence of Thorium Residuals in the right-of-way, and, as a condition of allowing such excavation, will require any such person to abide by the obligations imposed on the City by this Agreement. The City also agrees that it will immediately notify the PRPs of any request for a permit by a third-party for access to the right-of-way adjacent to the Site. No

violation of a permit by a third party shall constitute a breach of this Agreement by the City.

6. This Agreement shall run with the land and be binding upon all assigns and successors in interest to the owner of the Site or the rights-of-way.

7. Should the City breach this Agreement, the FRPs may seek such remedies as may be available in law or equity in the Circuit Court of Cook County. Should the City convey, vacate or transfer jurisdiction of the rights-of-way, the PRPs may pursue an action under this Agreement against the successors in interest, other than the City or any of its departments, in a Court of Law.

8. This Agreement is entered into by the City in recognition of laws passed by the General Assembly and regulations adopted by the Board which encourage a tiered-approach to remediating environmental contamination. This Agreement is entered into by the City in the spirit of those laws. If any provision of this Agreement shall be determined to exceed the authority of the City, or, if any provision of this Agreement or any portion of any provision of this Agreement shall be declared null and void or unenforceable by any court or tribunal having jurisdiction, then such provision or such portion of a provisions shall be considered separate and apart from the remainder of this Agreement, which shall remain in full force and effect.

9. This Agreement shall continue in effect from the date of the Agreement until Thorium Residuals in the soil are subsequently reduced through active remediation or through natural attenuation to levels as approved by the USEPA, such that unrestricted access to the rights-of-way identified in Attachment D is demonstrated to be appropriate and there is no longer a need for this Agreement, and the USEPA has, upon written request to the USEPA and notice to the City, provided a written determination authorizing unencumbered access to the rights-of-way.

IN WITNESS WHEREOF, the City of Chicago has caused this Agreement to be signed by its duly authorized representative:

BY: _____ Date: _____

IN WITNESS WHEREOF, River East, LLC has caused this Agreement to be signed by its duly authorized representative:

BY: _____ Date: _____
[Name]

IN WITNESS WHEREOF, Kerr McGee Chemical LLC has caused this Agreement to be signed by its duly authorized representative:

BY: _____ Date: _____
[Name]

A

COPPER REINFORCED
Made in U.S.A.

**LEGAL DESCRIPTION
TO BE PROVIDED**

B

COPPER REINFORCED
Made in U.S.A.

V-W- '94-C-223

Docket No.

ADMINISTRATIVE ORDER BY
CONSENT PURSUANT TO
SECTION 106 OF THE
COMPREHENSIVE
ENVIRONMENTAL RESPONSE,
COMPENSATION AND
LIABILITY ACT OF 1980,
as amended, 42 U.S.C.
Section 9606(a)

COMPENSATION AND
LIABILITY ACT OF 1980,
as amended, 42 U.S.C.
Section 9606(a)

as amended, 42 U.S.C.
Section 9606(a)

The United States Environmental Protection Agency (U.S. EPA) and the Respondent have each agreed to the making and entry of this Order by Consent.

A copy of this Order will also be provided to the State of Illinois, which has been notified of the issuance of this Order as required by Section 106(a) of CERCLA, 42 U.S.C. Section 9606(a).

FINDINGS

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds:

1. The Lindsay Light II Site ("the Site" or "the Facility") is located at 316 East Illinois Street, Chicago, Cook County, Illinois. The Site is situated in a urban area called the Gold Coast, and is surrounded by commercial and residential buildings. A shopping mall is located approximately 200 feet to the southeast. The Chicago River is located 1 mile south of the Site and Lake Michigan is about 1.5 miles east of the Site.
2. The Site is currently a parking lot operated by General Parking and owned by The Chicago Dock and Canal Trust.
3. Until 1936, Lindsay Light manufactured incandescent gas mantels at 161 East Grand, which is .25 miles from the Site. It is unknown if they worked elsewhere; however, Sanborn maps from 1906 do show Lindsay Light being at other Chicago locations. During 1931-1936, the company moved its operations to West Chicago, Illinois.
4. The principle ingredient in gas mantle manufacture is thorium as a nitrate. Small amounts of cerium, beryllium and magnesium nitrates are also used. Thorium occurs principally as the parent radionuclide thorium-232 in association with its daughter products in a decay sequence known as the Thorium Decay Series. Thorium radionuclides are also found in the Uranium Decay Series and the Actinium Decay Series. It is believed that the principal source of contamination at this Site is the Thorium Decay Series.
5. It is unclear what Lindsay Light actually did at 316 East Illinois; however, records from The Chicago Dock and Canal Trust indicate this Site was a stable, and that Lindsay Light leased portions of the building from The Chicago Dock and Canal Trust from 1915-1933.
6. On June 3, 1993, U.S. EPA and the Illinois Department of Nuclear Safety conducted a joint investigation at the Site. This investigation verified the presence of radioactivity at levels clearly above natural background. Gamma readings were found as high as 280 uR/hr on a Ludlum Model 19 Micro-R meter. Background measured at the Site had gamma readings of 20 uR/hr.

DETERMINATIONS

Based on the foregoing Findings, U.S. EPA has determined that:

1. The Lindsay Light II Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. Section 9601(9).

2. The Chicago Dock & Canal Trust is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. Section 9601(21).
4. Radionuclides are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. Section 9601(14).
5. The detection of gamma rays as high as 280 uR/hr constitutes an actual or threatened "release" as that term is defined in Section 101(22) of CERCLA, 42 U.S.C. Section 9601(22).
6. The actual or threatened release of hazardous substances from the Facility may present an imminent and substantial endangerment to the public health, welfare, or the environment.
7. The actions required by this Order, if properly performed, are consistent with the National Contingency Plan (NCP), 40 CFR Part 300, as amended, and CERCLA; and are reasonable and necessary to protect the public health, welfare and the environment because of the following factors:
 - a. **actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants;**

This factor is present at the Facility due to the existence of a public parking lot on property found to have gamma readings measured as high as 280 microroentgen per hour (uR/hr) on a Ludlum Model 19 Micro-R meter. Gamma rays are penetrating radiations indistinguishable from X-rays which can be absorbed by tissue in the human body. Furthermore, there are two parking attendants stationed at this parking lot on a 24-hour basis to collect fees, although initial readings taken on June 3, 1993, indicate that there were no levels above background where the attendants are stationed. U.S. EPA is monitoring the area to determine the potential dose. The Site is also surrounded by commercial and residential buildings, whose occupants use this parking lot and adjacent sidewalks. Situated 200 feet southeast of the Site is the North Pier shopping mall.

- b. **high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;**

This factor is present at the Facility due to the existence of elevated gamma levels as high as 280 uR/hr on a Ludlum Model 19 Micro-R meter, as compared to 20 uR/hr for background as measured at the Site. These gamma levels may indicate higher levels in the soils because the parking lot is covered with asphalt and/or concrete, which attenuates radiation.

- c. other situations or factors which may pose threats to public health or welfare or the environment.

This factor is present at the Facility due to the property's potential for future development. Such construction might entail excavating into potentially contaminated soils for placement of building footings and cause increased releases into the environment and human exposure to contaminants.

ORDER

Based upon the foregoing Findings and Determinations, and pursuant to Section 106(a) of CERCLA, 42 U.S.C. Section 9606(a), it is hereby ordered and agreed that Respondent will undertake the following actions at the Facility:

1. Within sixty (60) calendar days after the effective date of this Order, the Respondent shall submit to U.S. EPA for approval, a Work Plan for the investigation and sampling activities ordered as set forth in Paragraph 4 below. The Work Plan shall provide a concise description of the activities to be conducted to comply with the requirements of this Order. The Work Plan shall be reviewed by U.S. EPA, which may approve, disapprove, require revisions, or modify the Work Plan. Respondent shall implement the Work Plan as finally approved by U.S. EPA, including any modifications. Once approved, the Work Plan shall be deemed to be incorporated into and made a fully enforceable part of this Order.
2. The Work Plan shall contain a site safety and health plan, a sampling and analysis plan, and a schedule of the work to be performed. The site safety and health plan shall be prepared in accordance with the Occupational Safety and Health Administration (OSHA) regulations applicable to Hazardous Waste Operations and Emergency Response, 29 CFR Part 1910, and with Illinois Department of Nuclear Safety (IDNS) regulations pertaining to radiation workers, non-radiation workers, and the general public, 32 Illinois Administrative Code Part 340. The Work Plan and other submitted documents shall demonstrate that the Respondent can properly conduct the actions required by this Order.
3. Respondent shall retain a contractor qualified to undertake and complete the requirements of this Order, and shall notify U.S. EPA of the name of such contractor within five (5) business days of the effective date of this Order. U.S. EPA retains the right to disapprove of any, or all, of the contractors and/or subcontractors retained by the Respondent. In the event U.S. EPA disapproves of a selected contractor, Respondent shall retain a different contractor to perform the work, and such selection shall be made within two (2) business days following U.S. EPA's disapproval.

4. Within thirty (30) calendar days after U.S. EPA approval of the Work Plan, Respondent shall commence implementation of the Work Plan as approved or modified by U.S. EPA. Failure of the Respondent to properly implement all aspects of the Work Plan shall be deemed to be a violation of the terms of this Order. The Work Plan shall require the Respondent to perform, and complete within one hundred fifty (150) calendar days after approval, the following investigation and sampling activities:

- a. Develop and implement a Site Health and Safety Plan.
- b. Conduct land surveying to the extent necessary to locate all property boundaries and features, sample locations and areas having elevated radiation levels.
- c. Place borings in several locations for the purpose of measuring subsurface radiation levels. Measurements shall be recorded until the natural soils are reached or radiation levels reach background, whichever is the greatest depth.
- d. Collect soil samples from the borings and analyze for radionuclide content and RCRA characteristics. These results will then be used by the Respondent to correlate subsurface radiation levels and radionuclide content.

5. All materials removed from the Site shall be disposed of or treated at a facility approved by the On-Scene Coordinator and in accordance with the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. Section 6901, et seq., as amended, the U.S. EPA Revised Off-Site Policy, and all other applicable Federal, State, and local requirements.

6. On or before the effective date of this Order, the Respondent shall designate a Project Coordinator. The U.S. EPA has designated Verneta Simon, of the Emergency and Enforcement Response Branch, Response Section III, as its On-Scene Coordinator. The On-Scene Coordinator and the Project Coordinator shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communication between the Respondent and the U.S. EPA, and all documents, reports and approvals, and all other correspondence concerning the activities relevant to this Order, shall be directed through the On-Scene Coordinator and the Project Coordinator. During implementation of the Work Plan, the OSC and the Project Coordinator shall, whenever possible, operate by consensus, and shall attempt in good faith to resolve disputes informally through discussion of the issues.

7. The U.S. EPA and the Respondent shall each have the right to change their respective designated On-Scene Coordinator or Project Coordinator. U.S. EPA shall notify the Respondent, and

Respondent shall notify U.S. EPA, as early as possible before such a change is made. Notification may initially be verbal, but shall promptly be reduced to writing.

8. The U.S. EPA On-Scene Coordinator shall have the authority vested in an On-Scene Coordinator by the NCP, 40 CFR Part 300, as amended, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action undertaken by U.S. EPA or the Respondent at the facility.

9. No extensions to the time frames in this Order shall be granted without sufficient cause. All extensions must be requested, in writing, and shall not be deemed accepted unless approved, in writing, by U.S. EPA.

10. This Order and all instructions by the U.S. EPA On-Scene Coordinator or designated alternate that are consistent with the National Contingency Plan and this Order shall be binding upon the Respondent, and the employees, agents, contractors, successors and assigns of the Respondent.

11. To the extent that the Facility or other areas where work under this Order is to be performed is owned by, or in possession of, someone other than the Respondent, Respondent shall attempt to obtain all necessary access agreements. In the event that after using it's best efforts the Respondent is unable to obtain such agreements, Respondent shall immediately notify U.S. EPA and U.S. EPA may then assist Respondent in gaining access, to the extent necessary to effectuate the response activities described herein, using such means as it deems appropriate.

12. Respondent shall provide access to the Facility to U.S. EPA employees, and U.S. EPA-authorized contractors, agents, and consultants at any time, and shall permit such persons to be present and move freely in the area in order to conduct inspections, including taking photographs and videotapes of the Facility, to do cleanup/stabilization work, to take samples, to monitor the work under this Order, and to conduct other activities which the U.S. EPA determines to be necessary.

13. This Order shall be effective on the date of signature by the Director, Waste Management Division.

14. Respondent shall provide a written monthly progress report to the On-Scene Coordinator regarding the actions and activities undertaken under this Order. At a minimum, these progress reports shall describe the actions that have been taken to comply with this Order, including all results of sampling and tests received or prepared by the Respondent and shall describe all significant work items planned for the next month.

15. Respondent agrees to retain for six years following completion of the activities required by this Order copies of all records, files and data relating to hazardous substances found on the Site, or related to the activities undertaken pursuant to this Order, whether or not those documents were created pursuant to this Order. Respondent shall acquire and retain copies of all documents relating to the Site that are in the possession of its contractors, agents and employees. Respondent shall notify U.S. EPA at least sixty (60) calendar days before any documents retained under this paragraph are to be destroyed. The documents retained under this paragraph shall be made available to the U.S. EPA upon request.

16. The United States reserves its right to seek reimbursement from the Respondent of all past costs and oversight costs it incurs with regards to the Lindsay Light II Site that are not inconsistent with the National Contingency Plan. Nothing in this Order shall be construed as a waiver of that right.

17. A notice, document, information, report, plan, approval, disapproval or other correspondence required to be submitted from one party to another under the Order shall be deemed submitted either when hand delivered or as of the date of receipt by certified mail, return receipt requested.

Submissions to the Respondent shall be submitted to:

The Chicago Dock & Canal Trust
c/o Mr. Charles Gardner, President
455 East Illinois Street
Suite 565
Chicago, Illinois 60611

Submissions to the U.S. EPA shall be submitted to:

Verneta Simon
On-Scene Coordinator
U.S. Environmental Protection Agency
77 West Jackson Boulevard, HSE-5J
Chicago, Illinois 60604

18. If any provision of this Order is deemed invalid or unenforceable, the remainder of this Order shall remain in full force and effect.

STIPULATED PENALTIES

19. For each day the Respondent fails to meet the deadlines set forth in the Consent Order and Work Plan, Respondent shall be liable as follows:

Penalty For:

	<u>First Week or Part Thereof</u>	<u>Each Following Week or Part Thereof</u>
Failure to Submit the Work Plan, Site Safety and Health Plan, Sampling and Analysis Plan or the Schedule of Work to be Performed	\$1,000	\$1,750
Failure to Commence Implementation of the Work Plan	\$1,000	\$1,750
Failure to Meet any Scheduled Deadline in the Work Plan	\$1,000	\$1,750
Failure to Submit Monthly Reports	\$ 250	\$ 400

20. All penalties which accrue pursuant to the requirements of this Order shall be paid within fifteen (15) business days of written demand by U.S. EPA. Payment shall be made to the EPA Hazardous Substances Superfund delivered to the U.S. EPA, Attn: Superfund Accounting, P.O. Box 70753, Chicago, Illinois 60673, in the form of a certified or cashier's check payable to "EPA Hazardous Substances Superfund." The face of the check should note that the payment is for the Lindsay Light II Site.

21. Pursuant to 31 U.S.C. Section 3717, interest shall accrue on any amount of overdue stipulated penalties at a rate established by the United States Treasury. Stipulated penalties shall accrue, but need not be paid, during any dispute resolution period concerning the particular penalties at issue. If Respondent prevails upon resolution, Respondent shall pay only such penalties as the resolution requires.

22. Payment of Stipulated Penalties will not relieve Respondent from complying with the terms of this Consent Order. U.S. EPA retains the right to seek any remedies or sanctions available to U.S. EPA by reason of Respondent's noncompliance with the provisions of this Consent Order that are not otherwise expressly limited by these Stipulated Penalty provisions.

PENALTIES FOR NONCOMPLIANCE

23. Respondent is advised pursuant to Section 106(b) of CERCLA, 42 U.S.C. Section 9606(b), that violation or subsequent failure or refusal to comply with this Order and any Work Plan approved under this Order, or any portion thereof, may subject the Respondent to a civil penalty of no more than \$25,000 per day for each day in which such violation occurs, or such failure to comply continues. In addition, failure to properly provide investigation and sampling actions upon the terms of this order, or other subsequent orders issued by U.S. EPA, may result in liability for punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C Section 9607(c)(3).

TERMINATION AND SATISFACTION

24. The Respondent shall submit a final report summarizing the actions taken to comply with this Order. The report shall contain, at a minimum: identification of the facility, a description of the locations and types of hazardous substances encountered at the facility upon the initiation of work performed under this Order, a chronology and description of the actions performed (including both the organization and implementation of response activities), a listing of the resources committed to perform the work under this Order (including financial, personnel, mechanical and technological resources), identification of all items that affected the actions performed under the Order and discussion of how all problems were resolved, a listing of quantities and types of materials removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination of those materials, and a presentation of the analytical results of all sampling and analyses performed and accompanying appendices containing all relevant paperwork accrued during the action (e.g., manifests, invoices, bills, contracts, permits). The final report shall also include an affidavit from a person who supervised or directed the preparation of that report. The affidavit shall certify under penalty of law that based on personal knowledge and appropriate inquiries of all other persons involved in preparation of the report, the information submitted is true, accurate and complete to the best of the affiant's knowledge and belief. The report shall be submitted within sixty (60) calendar days of completion of the work required by the U.S. EPA.

25. The provisions of this Order shall be deemed satisfied upon payment by Respondent of all sums due under the terms of this Order and upon the Respondent's receipt of written notice from U.S. EPA that the Respondent has demonstrated, to the satisfaction of U.S. EPA, that all of the terms of this Order,

including any additional tasks consistent with this Consent Order which U.S. EPA has determined to be necessary, have been completed.

INDEMNIFICATION

26. The Respondent agrees to indemnify and save and hold harmless the United States Government, its agencies, departments, agents, and employees, from any and all claims or causes of action arising from, or on account of, acts or omissions of the Respondent, its officers, employees, receivers, trustees, agents, successors or assigns, in carrying out the activities pursuant to this Order. The United States Government shall not be held as a party to any contract entered into by the Respondent in carrying out activities under this Order.

RESERVATION OF RIGHTS

27. This Order is not intended for the benefit of any third party and may not be enforced by any third party.

28. The U.S. EPA and the Respondent reserve all rights, claims, demands, and defenses, including defenses and denials of and to all determinations and findings, that they may have as to each other except as otherwise provided in this Order pursuant to any available legal authority. Nothing in this Order shall expand the Respondent's ability to obtain preenforcement review of U.S. EPA actions. Notwithstanding any reservation of rights, Respondent agrees to comply with the terms and conditions of this Order and consents to the jurisdiction of the U.S. EPA to enter into and enforce this Order.

29. Nothing herein is intended to release, discharge, limit or in any way affect any claim, causes of action or demands in law or equity which the parties may have against any persons, firm, trust, joint venture, partnership, corporation, or other entity not a party to this Order for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, disposal, release or threat of release of any hazardous substance, hazardous waste, contaminant or pollutant at or from the Site. The parties to this Order hereby expressly reserve all rights, claims, demands and causes of action they may have against any and all other persons and entities who are not parties to this Order.

30. Nothing herein shall be construed: 1) to prevent U.S. EPA from exercising its right to disapprove of work performed by the Respondent; 2) to prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this order; 3) to prevent U.S. EPA from taking other legal or equitable action not

inconsistent with the Covenant Not To Sue in Paragraphs 41 through 43 of this Order; 4) to prevent U.S. EPA from requiring the Respondent in the future to perform additional activities pursuant to CERCLA, 42 U.S.C. Section 9601 et seq., or any other applicable law; or 5) to prevent U.S. EPA from undertaking response actions at the Site.

FORCE MAJEURE

31. The Respondent shall cause all work to be performed within the time limits set forth herein and in the approved Work Plan, unless performance is delayed by "force majeure". For purposes of this Order, "force majeure" shall mean an event arising from causes entirely beyond the control of the Respondent and its contractors which delays or prevents the performance of any obligation required by this Order. Increases in costs, financial difficulty, and normal inclement weather are examples of events that are not considered to be beyond the control of the Respondent.

32. Respondent shall notify the OSC within 24 hours after Respondent becomes aware of any event which Respondent contends constitutes a force majeure, with subsequent written notice within seven (7) calendar days of the event. Such written notice shall describe: 1) the nature of the delay, 2) the cause of the delay, 3) the expected duration of the delay, including any demobilization and remobilization resulting from the delay, 4) the actions which will be taken to prevent or mitigate further delay, and 5) the timetable by which the actions to mitigate the delay will be taken. Respondent shall implement all reasonable measures to avoid and/or minimize such delays. Failure to comply with the notice provision of this paragraph shall be grounds for U.S. EPA to deny Respondent an extension of time for performance. The Respondent shall have the burden of demonstrating by a preponderance of the evidence that the event is a force majeure, that the delay is warranted under the circumstances, and that best efforts were exercised to avoid and mitigate the effects of the delay. If U.S. EPA determines a delay is or was attributable to a force majeure, the time period for performance under this Order shall be extended as deemed necessary by the OSC to allow performance.

DISPUTE RESOLUTION

33. The Parties to this Order on Consent shall attempt to resolve expeditiously and informally any disagreements concerning implementation of this Order on Consent or any work required hereunder.

34. In the event that any dispute arising under this Order on Consent is not resolved expeditiously through informal means, any party desiring dispute resolution under this Section shall give prompt written notice to the other parties to the Order.

35. Within ten (10) calendar days of the service of notice of dispute pursuant to Paragraph 34 above, the party who gave notice shall serve on the other parties to this Order a written statement of the issues in dispute, the relevant facts upon which the dispute is based, and factual data, analysis or opinion supporting its position, and all supporting documentation on which such party relies (hereinafter the "Statement of Position"). The opposing parties shall serve their Statement of Position, including supporting documentation, no later than ten (10) calendar days after receipt of the complaining party's Statement of Position. In the event that these 10-day time periods for exchange of Statements of Position may cause a delay in the work, they shall be shortened upon and in accordance with notice by U.S. EPA.

36. An administrative record of any dispute under this Section shall be maintained by U.S. EPA. The record shall include the written notification of such dispute, and the Statements of Position served pursuant to the preceding paragraphs.

37. Upon review of the administrative record, the Director of the Waste Management Division, U.S. EPA, Region V, shall resolve the dispute consistent with the NCP and the terms of this Order.

NON-ADMISSION

38. The consent of the Respondent to the terms of this Order shall not constitute or be construed as an admission of liability or of U.S. EPA's findings or determinations contained in this Order in any proceeding other than a proceeding to enforce the terms of this Order.

CERCLA FUNDING

39. The Respondent waives any claims or demands for compensation or payment under Sections 106(b), 111 and 112 of CERCLA against the United States or the Hazardous Substance Superfund established by 26 U.S.C. §9507 for, or arising out of, any activity performed or expenses incurred pursuant to this Consent Order.

40. This Consent Order does not constitute any decision on preauthorization of funds under Section 111(a)(2) of CERCLA.

COVENANT NOT TO SUE

41. Upon termination and satisfaction of this Administrative Order pursuant to its terms, for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Order, U.S. EPA hereby covenants not to sue Respondent for judicial imposition of damages or civil penalties for any failure to perform obligations agreed to in this Order except as otherwise reserved herein.

42. Performance of the terms of this Order resolves and satisfies the liability of the Respondent to U.S. EPA for work satisfactorily performed under this Order. U.S. EPA recognizes that, pursuant to Section 113 of CERCLA, the Respondent, upon having resolved its liability with the U.S. EPA for the matters expressly covered by this Order, shall not be liable for claims for contribution regarding matters addressed in this Order. Nothing in this Order precludes the Respondent from asserting any claims, causes of action or demands against potentially responsible parties (PRPs) who are not parties to this Order for indemnification, contribution, or cost recovery.

43. In consideration of the actions to be performed by the Respondent under this Order, the U.S. EPA covenants not to sue the Respondent, its successors or assigns for any and all claims which are available to the U.S. as against the Respondent under Sections 106 and 107 of CERCLA concerning all matters satisfactorily performed.

SUBSEQUENT AMENDMENT

44. This Consent Order may be amended by mutual agreement of U.S. EPA and the Respondent. Any amendment of this Consent Order shall be in writing, signed by U.S. EPA and the Respondent and shall have as the effective date, that date on which such amendment is signed by U.S. EPA.

LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

SIGNATORIES

Each undersigned representative of a signatory to this Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory, its directors, officers, employees, agents, successors and assigns, to this document.

Agreed this 10th day of January, 1994.

By Charles K. Kasper, President
The Chicago Dock & Canal Trust

The above being agreed and consented to, it is so ORDERED
this 27th day of January, 1994.

By William E. Muno
William E. Muno, Director
Waste Management Division
U.S. Environmental Protection Agency
Region V, Complainant

bcc: Docket Analyst, ORC (CS-3T)
Marc Radell, ORC (CS-3T)
Verneta Simon, OSC (HSE-5J)
Debbie Regel, ESS (HSE-5J)
Jose Cisneros, ESS (HSE-5J)
Mary Ellen Ryan, SFAS (MF-10J)
Oliver Warnsley, CRS (HSM-5J)
EERB Site File
EERB Read File
Toni Lesser, Public Affairs (P-19J) w/out attachments
Sheila Huff, Department of Interior
Larry Jensen, ARD (AT-18J)

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C

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 5

IN THE MATTER OF:

Lindsay Light II Site
Chicago, Illinois

Respondents:

The Chicago Dock & Canal Trust
Kerr-McGee Chemical Corporation

) Docket No. V-W-96-C-353
)
) ADMINISTRATIVE ORDER
) PURSUANT TO SECTION 106(a)
) OF THE COMPREHENSIVE
) ENVIRONMENTAL RESPONSE,
) COMPENSATION, AND
) LIABILITY ACT OF 1980,
) AS AMENDED, 42 U.S.C.
) SECTION 9606(a)

I. JURISDICTION AND GENERAL PROVISIONS

This Order is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606(a), and delegated to the Administrator of the United States Environmental Protection Agency ("U.S. EPA") by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-A and 14-14-B, and to the Director, Superfund Division, Region 5, by Regional Delegation Nos. 14-14-A and 14-14-B.

This Order pertains to property located at 316 East Illinois Street, Chicago, Illinois (the "Lindsay Light II Site" or the "Site"). This Order requires the Respondents to conduct removal activities described herein to abate an imminent and substantial endangerment to the public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site.

U.S. EPA has notified the State of Illinois of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

This Order applies to and is binding upon Respondents and Respondents' heirs, receivers, trustees, successors and assigns. Any change in ownership or corporate status of Respondents including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondents' responsibilities under this Order. Respondents are jointly and severally liable for carrying out all activities required by this Order. Compliance or noncompliance by one or more Respondent with any provision of this Order shall not excuse or justify noncompliance by any other Respondent.

Respondents shall ensure that their contractors, subcontractors, and representatives comply with this Order. Respondents shall be responsible for any noncompliance.

III. FINDINGS OF FACT

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds that:

1. The Lindsay Light II Site ("the Site" or "the Facility") is located at 316 East Illinois Street, Chicago, Cook County, Illinois. The Site is situated in an urban area called the Gold Coast, and is surrounded by commercial and residential buildings. A shopping mall is located approximately 200 feet to the southeast. The Chicago River is located 1 mile south of the Site, and Lake Michigan is about 1.5 miles east of the Site.
2. The Site is currently a parking lot operated by General Parking, and owned by the Chicago Dock and Canal Trust ("CDCT").
3. Until 1936, Lindsay Light manufactured incandescent gas mantels at 161 East Grand, which is .25 miles from the Site. It is unknown if they worked elsewhere; however, Sanborn maps from 1906 do show Lindsay Light being at other Chicago locations. During 1931-1936, the company moved its operations to West Chicago, Illinois.
4. The principal ingredient in gas mantle manufacture is thorium as a nitrate. Small amounts of cerium, beryllium and magnesium nitrates are also used. Thorium occurs principally as the parent radionuclide thorium-232 in association with its daughter products in a decay sequence known as the Thorium Decay Series. Thorium radionuclides are also found in the Uranium Decay Series and the Actinium Decay Series. It is believed that the principal source of contamination at this Site is the Thorium Decay Series.
5. It is unclear what Lindsay Light actually did at 316 East Illinois; however, records from The Chicago Dock and Canal Trust indicate this Site was a stable, and that Lindsay Light leased portions of the building from The Chicago Dock and Canal Trust from 1915-1933.
6. On June 3, 1993, U.S. EPA and the Illinois Department of Nuclear Safety conducted a joint investigation at the Site. This investigation verified the presence of radioactivity at levels clearly above natural background. Gamma readings were found as high as 280 uR/hr on a Ludlum Model 19 Micro-R meter. Background measured at the Site had gamma readings of 20 uR/hr.

7. The Chicago Dock and Canal Trust entered into an Administrative Order by Consent ("AOC") with U.S. EPA to study the extent of subsurface radiation and radionuclide content before excavation. The AOC was signed by U.S. EPA on January 27, 1994, and the extent of contamination ("EOC") study was completed by CDCT in May 1994. The final report concerning the extent of contamination was delivered to U.S. EPA on October 17, 1995, and was approved on March 13, 1996.
8. A brief summary of the final report approved by U.S. EPA on March 13, 1996, is as follows: 12 areas exhibit elevated gamma levels; the maximum contamination depth extends to 2.5 meters (8 feet) below the ground surface; and Resource Conservation and Recovery Act ("RCRA")-characteristic waste is not present on-site. The highest gamma level is 252 times above background, or 1.1 milliRoentgen per hour.
9. Activities completed at this Site, besides the extent of contamination study, have been the voluntary placement by CDCT of notices at the entrances to the parking lot informing patrons of the risks associated with the lot.

IV. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and the Administrative Record supporting these removal actions, U.S. EPA determines that:

1. The Lindsay Light II Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
2. Radionuclides are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
3. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
4. Respondent The Chicago Dock & Canal Trust is the present "owner" and "operator" of the Lindsay Light II Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20). Respondent Kerr-McGee Chemical Corporation is a person who is the corporate successor of the Lindsay Light Company. The Lindsay Light Company was the operator of the Lindsay Light II Site at the time of disposal of any hazardous substances, or who arranged for disposal or transport for disposal of hazardous substances at the Lindsay Light II Site. Respondents are therefore liable persons under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

5. The conditions described in the Findings of Fact above constitute an actual or threatened "release" into the "environment" as defined by Sections 101(8) and (22) of CERCLA, 42 U.S.C. §§ 9601(8) and (22).

6. The conditions present at the Site constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, as amended ("NCP"), 40 CFR Part 300. These factors include, but are not limited to, the following:

a. actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants;

This factor is present at the Site due to the existence of a public parking lot on property found to have gamma readings measured as high as 1.1 milliRoentgen per hour. This reading is 252 times the background level measured for the Site.

Gamma rays are penetrating radiation indistinguishable from X-rays which can be absorbed by tissue in the human body, thereby increasing the cancer risk for the person exposed. The excess risk to a transient spending 29 minutes per day for a 250 day work year at the peak exposure spot is 10^{-4} . Transients were judged to be parking lot customers, people using the lot for a short cut, or temporary workers.

The Site is surrounded by two-foot high steel guardrails, which do not totally restrict access. Furthermore, there are two parking attendants stationed at this parking lot on a 24-hour basis to collect fees, although initial readings taken on June 3, 1993, indicate that there were no levels above background where the attendants are stationed. Again, such an exposure entails cancer risk that would have no personal or societal benefit. Direct measurement with survey instruments at the present parking lot attendant stations found background radiation levels which were confirmed with longer measurements using thermoluminescent dosimeters ("TLDs") placed in the ticket booths between June 3, 1993, and June 30, 1993. Conditions at the Site have not changed since the site assessment on June 3, 1993. There is no guarantee that the ticket booths could not be moved to the peak point of gamma readings at some future time, thereby introducing the potential for exposure and risk to be actualized.

The EOC study confirmed that elevated radioactivity levels are due to past industrial processes. The Site is also surrounded by commercial and residential buildings, whose occupants use this parking lot and adjacent sidewalks. Situated 200 feet southeast of the Site is the North Pier shopping mall.

b. high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

This factor is present at the Site due to the existence of elevated gamma exposure levels which validates subsurface deposits of radiological contaminants. The dominant concern is intrusion into these materials that will contaminate the intruder and their equipment and, further, lead to dispersal or spreading of the contaminants from their present locations. Such a scenario probably has arisen, and could again arise, with parking lot excavation where workers and their equipment are contaminated by radioactive soils, dry soil dispersed in the wind, and excavation spoils moved off-site. The number of people exposed could greatly increase and might include workers who subsequently use contaminated machinery, residents near the parking lot who might come in contact with wind dispersed soils, and use of excavation spoils. Such spreading could occur within downtown Chicago where the parking lot is located and out for several miles depending upon where workers reside and where spoils are used.

c. other situations or factors that may pose threats to public health or welfare or the environment;

This factor is present at the Site due to the property's planned future development. Such construction would entail excavating into potentially contaminated soils for placement of building footings and cause increased releases into the environment and human exposure to contaminants. Also, it has not been determined whether subsurface contaminants are soluble. If they are, there could be spreading via groundwater.

This Site appears to be gridded with sewer lines. These could be conduits for the spread of both soluble and insoluble materials off-site, for extension of the region of contamination, and for an increase in the potential for sewer workers to be exposed to contaminants.

7. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

8. The removal actions required by this Order are necessary to protect the public health, welfare, or the environment, and are not inconsistent with the NCP and CERCLA.

V. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, U.S. EPA hereby orders that Respondents perform the following actions:

1. Notice of Intent to Comply

Respondents shall notify U.S. EPA in writing within 3 business days after the effective date of this Order of Respondents' irrevocable intent to comply with this Order. Failure of each Respondent to provide such notification within this time period shall be a violation of this Order.

2. Designation of Contractor, Project Coordinator, and On-Scene Coordinator

Respondents shall perform the removal actions themselves or retain contractors to implement the removal actions. Respondents shall notify U.S. EPA of Respondents' qualifications or the name and qualifications of such contractors, whichever is applicable, within 10 business days of the effective date of this Order. Respondents shall also notify U.S. EPA of the name and qualifications of any other contractors or subcontractors retained to perform work under this Order at least 5 business days prior to commencement of such work. U.S. EPA retains the right to disapprove of the Respondents or any of the contractors and/or subcontractors retained by the Respondents. If U.S. EPA disapproves a selected contractor, Respondents shall retain a different contractor within 2 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that contractor's name and qualifications within 3 business days of U.S. EPA's disapproval.

Within 10 business days after the effective date of this Order, the Respondents shall designate a Project Coordinator who shall be responsible for administration of all the Respondents' actions required by the Order and submit the designated coordinator's name, address, telephone number, and qualifications to U.S. EPA. To the greatest extent possible, the Project Coordinator shall be present on-site or readily available during site work. U.S. EPA retains the right to disapprove of any Project Coordinator named by the Respondents. If U.S. EPA disapproves a selected Project Coordinator, Respondents shall retain a different Project Coordinator within 3 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that person's name and qualifications within 4 business days of U.S. EPA's disapproval. Receipt by Respondents' Project Coordinator of any notice or communication from U.S. EPA relating to this Order shall constitute receipt by all Respondents.

The U.S. EPA has designated Verneta Simon of the Emergency Response Branch, Region 5, as its On-Scene Coordinator (OSC). Respondents shall direct all submissions required by this Order to the OSC at U.S. EPA, 77 West Jackson Boulevard, SE-5J, Chicago, Illinois, 60604-3590, by certified or express mail. Respondents shall also send a copy of all submissions to Nancy-Ellen Zusman, Assistant Regional Counsel, 77 West Jackson Boulevard, C-29A, Chicago, Illinois, 60604-3590. All Respondents are encouraged to make their submissions to U.S. EPA on recycled paper (which includes significant postconsumer waste paper content where possible) and using two-sided copies.

3. Work to Be Performed

Respondents shall perform, at a minimum, the following response activities:

- a. Develop and implement a Site Health and Safety Plan.
- b. Develop and implement Site security measures.
- c. Develop and implement an air monitoring program.
- d. Remove contamination until the cleanup criterion of 5 picoCuries per gram total radium (radium-226 + radium-228) over background is achieved. This cleanup criterion will be met in each 15 centimeter layer below the surface. Averaging over areas up to 100 square meters will be allowed, but only after reasonable efforts have been made to achieve levels As Low As Reasonably Achievable ("ALARA"). It is not U.S. EPA's intent to leave any elevated areas of contamination if at all possible.
- e. Establish local background for radium-226 and radium-228 from four soil samples taken on the property at points where the gamma exposure rates are lowest plus eight soil samples taken off-site, but in the immediate vicinity, of the parking lot.
- f. Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes, or contaminants at a RCRA/CERCLA/IDNS-approved disposal facility in accordance with the U.S. EPA off-site policy.
- g. Conduct off-site surveying and sampling as necessary and, at a minimum, implement the standards of 40 Code of Federal Regulations ("CFR") 192, if deemed necessary should contamination be discovered beyond current site boundaries.

- h. Backfill all excavations with suitable material, and if soil, test borrow source for radioactivity and other pertinent characteristics in 40 CFR Part 261.

3.1 Work Plan and Implementation

Within 15 calendar days after the effective date of this Order, the Respondents shall submit to U.S. EPA for approval a draft Work Plan for performing the removal activities set forth above. The draft Work Plan shall provide a description of, and an expeditious schedule for, the activities required by this Order.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft Work Plan. If U.S. EPA requires revisions, Respondents shall submit a revised draft Work Plan within 7 business days of notification. Respondents shall implement the Work Plan as finally approved in writing by U.S. EPA in accordance with the schedule approved by U.S. EPA. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be fully enforceable under this Order. Respondents shall notify U.S. EPA at least 48 hours prior to performing any on-site work pursuant to the U.S. EPA approved work plan.

Respondents shall not commence or undertake any removal actions at the Site without prior U.S. EPA approval.

3.2 Health and Safety Plan

Within 15 calendar days after the effective date of this Order, the Respondents shall submit a plan for U.S. EPA review and comment that ensures the protection of the public health and safety during performance of on-site work under this Order. This plan shall comply with applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 CFR Part 1910. If U.S. EPA determines it is appropriate, the plan shall also include contingency planning. Respondents shall incorporate all changes to the plan recommended by U.S. EPA, and implement the plan during the pendency of the removal action.

3.3 Quality Assurance and Sampling

All sampling and analyses performed pursuant to this Order shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. Respondents shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance. Upon request by U.S. EPA, Respondents shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondents shall provide to U.S. EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or

analysis. Respondents shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, Respondents shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondents or their contractors or agents while performing work under this Order. Respondents shall notify U.S. EPA not less than 3 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

3.4 Reporting

Respondents shall submit a monthly written progress report to U.S. EPA concerning activities undertaken pursuant to this Order, beginning 30 calendar days after the date of U.S. EPA's approval of the Work Plan, until termination of this Order, unless otherwise directed by the OSC. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

Any Respondent that owns any portion of the Site, and any successor in title shall, at least 30 days prior to the conveyance of any interest in real property at the Site, give written notice of this Order to the transferee and written notice of the proposed conveyance to U.S. EPA and the State. The notice to U.S. EPA and the State shall include the name and address of the transferee. The party conveying such an interest shall require that the transferee will provide access as described in Section V.4 (Access to Property and Information).

3.5 Final Report

Within 60 calendar days after completion of all removal actions required under this Order, the Respondents shall submit for U.S. EPA review a final report summarizing the actions taken to comply with this Order. The final report shall conform to the requirements set forth in Section 300.165 of the NCP. The final report shall also include a good faith estimate of total costs incurred in complying with the Order, a listing of quantities and types of materials removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits).

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

4. Access to Property and Information

Respondents shall provide or obtain access as necessary to the Site and all appropriate off-site areas, and shall provide access to all records and documentation related to the conditions at the Site and the activities conducted pursuant to this Order. Such access shall be provided to U.S. EPA employees, contractors, agents, consultants, designees, representatives, and State of Illinois representatives. These individuals shall be permitted to move freely at the Site and appropriate off-site areas in order to conduct activities which U.S. EPA determines to be necessary. Respondents shall submit to U.S. EPA, upon request, the results of all sampling or tests and all other data generated by Respondents or their contractors, or on the Respondents' behalf during implementation of this Order.

Where work under this Order is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall obtain all necessary access agreements within 14 calendar days after the effective date of this Order, or as otherwise specified in writing by the QSC. Respondents shall immediately notify U.S. EPA if, after using their best efforts, they are unable to obtain such agreements. Respondents shall describe in writing their efforts to obtain access. U.S. EPA may then assist Respondents in gaining access, to the extent necessary to effectuate the response activities described herein, using such means as U.S. EPA deems appropriate.

5. Record Retention, Documentation, Availability of Information

Respondents shall preserve all documents and information, in their possession or the possession of their contractors, subcontractors or representatives, relating to work performed under this Order, or relating to the hazardous substances found on or released from the Site, for six years following completion of the removal actions required by this Order. At the end of this six year period and at least 60 days before any document or information is destroyed, Respondents shall notify U.S. EPA that such documents and information are available to U.S. EPA for inspection, and upon request, shall provide the originals or copies of such documents and information to U.S. EPA. In addition, Respondents shall provide documents and information retained under this Section at any time before expiration of the six year period at the written request of U.S. EPA.

6. Off-Site Shipments

All hazardous substances, pollutants or contaminants removed off-site pursuant to this Order for treatment, storage or disposal shall be treated, stored, or disposed of at a RCRA/CERCLA/IDNS-approved disposal facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 CFR § 300.440, 58 Federal Register 215 (Sept. 22, 1993).

7. Compliance With Other Laws

All actions required pursuant to this Order shall be performed in accordance with all applicable local, state, and federal laws and regulations except as provided in CERCLA Section 121(e) and 40 CFR Section 300.415(i). In accordance with 40 CFR Section 300.415(i), all on-site actions required pursuant to this Order shall, to the extent practicable, as determined by U.S. EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws.

8. Emergency Response and Notification of Releases

If any incident, or change in Site conditions, during the activities conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondents shall immediately take all appropriate action to prevent, abate or minimize such release, or endangerment caused or threatened by the release. Respondents shall also immediately notify the OSC or, in the event of his/her unavailability, shall notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions.

Respondents shall submit a written report to U.S. EPA within 7 business days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. Respondents shall also comply with any other notification requirements, including those in CERCLA Section 103, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. § 11004.

VI. AUTHORITY OF THE U.S. EPA ON-SCENE COORDINATOR

The OSC shall be responsible for overseeing the implementation of this Order. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action

undertaken by U.S. EPA or Respondents at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

U.S. EPA and Respondents shall have the right to change their designated OSC or Project Coordinator. U.S. EPA shall notify the Respondents, and Respondents shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. Notification may initially be made orally, but shall be followed promptly by written notice.

VII. PENALTIES FOR NONCOMPLIANCE

Violation of any provision of this Order may subject Respondents to civil penalties of up to \$25,000 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1).

Respondents may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Should Respondents violate this Order or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606.

VIII. REIMBURSEMENT OF COSTS

Respondents shall reimburse U.S. EPA, upon written demand, for all response costs incurred by the United States in overseeing Respondents' implementation of the requirements of this Order. U.S. EPA may submit to Respondents on a periodic basis a bill for all response costs incurred by the United States with respect to this Order. U.S. EPA's Itemized Cost Summary, or such other summary as certified by U.S. EPA, shall serve as the basis for payment.

Respondents shall, within 30 days of receipt of the bill, remit a cashier's or certified check for the amount of those costs made payable to the "Hazardous Substance Superfund," to the following address:

U.S. Environmental Protection Agency
Superfund Accounting
P.O. Box 70753
Chicago, Illinois 60673

Respondents shall simultaneously transmit a copy of the check to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590. Payments shall be

designated as "Response Costs - Lindsay Light II Site" and shall reference the payors' names and addresses, the U.S. EPA site identification number (YT), and the docket number of this Order.

Interest at a rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 CFR § 102.13 shall begin to accrue on the unpaid balance from the day after the expiration of the 30 day period notwithstanding any dispute or an objection to any portion of the costs.

IX. RESERVATION OF RIGHTS

Nothing herein shall limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

X. OTHER CLAIMS

By issuance of this Order, the United States and U.S. EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or U.S. EPA shall not be a party or be held out as a party to any contract entered into by the Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out activities pursuant to this Order.

This Order does not constitute a pre-authorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§ 9606(a), 9607(a).

XI. MODIFICATIONS

Modifications to any plan or schedule may be made in writing by the OSC or at the OSC's oral direction. If the OSC makes an oral modification, it will be memorialized in writing within 7 business days; however, the effective date of the modification shall be the date of the OSC's oral direction. The rest of the Order, or any other portion of the Order, may only be modified in writing by signature of the Director, Superfund Division, Region 5.

If Respondents seek permission to deviate from any approved plan or schedule, Respondents' Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis.

No informal advice, guidance, suggestion, or comment by U.S. EPA regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondents shall relieve Respondents of their obligations to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.

XII. NOTICE OF COMPLETION

After submission of the Final Report, Respondents may request that U.S. EPA provide a Notice of Completion of the work required by this Order. If U.S. EPA determines, after U.S. EPA's review of the Final Report, that all work has been fully performed in accordance with this Order, except for certain continuing obligations required by this Order (e.g., record retention), U.S. EPA will provide written notice to the Respondents. If U.S. EPA determines that any removal activities have not been completed in accordance with this Order, U.S. EPA will notify the Respondents, provide a list of the deficiencies, and require that Respondents modify the Work Plan to correct such deficiencies. The Respondents shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the U.S. EPA notice. Failure to implement the approved modified Work Plan shall be a violation of this Order.

XIII. ACCESS TO ADMINISTRATIVE RECORD

The Administrative Record supporting these removal actions is available for review during normal business hours in the U.S. EPA Record Center, Region 5, 77 W. Jackson Blvd., Seventh Floor, Chicago, Illinois. Respondents may contact Nancy-Ellen Zusman, Assistant Regional Counsel, at (312) 886-5825 to arrange to review the Administrative Record. An index of the Administrative Record is attached to this Order.

XIV. OPPORTUNITY TO CONFER

Within 3 business days after receipt of this Order, Respondents may request a conference with U.S. EPA. Any such conference shall be held within 5 business days from the date of the request, unless extended by agreement of the parties. At any conference held pursuant to the request, Respondents may appear in person or be represented by an attorney or other representative.

If a conference is held, Respondents may present any information, arguments or comments regarding this Order. Regardless of whether a conference is held, Respondents may submit any information, arguments or comments (including justifications for any assertions that the Order should be withdrawn against a Respondent), in writing to U.S. EPA within 2 business days following the conference, or within 7 business days of receipt of the Order if no conference is requested. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondents a right to seek review of this Order. Requests for a conference shall be directed to Nancy-Ellen Zusman, Assistant Regional Counsel, at (312) 886-5825. Written submittals shall be directed as specified in Section V.2 of this Order.

XV. SEVERABILITY

If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XVI. EFFECTIVE DATE

This Order shall be effective 10 business days following issuance unless a conference is requested as provided herein. If a conference is requested, this Order shall be effective 5 business days after the day of the conference.

IN THE MATTER OF:

LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

IT IS SO ORDERED

BY: W. E. Muno
William E. Muno, Director
Superfund Division
United States
Environmental Protection Agency
Region 5

DATE: 6/8/76

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II
CHICAGO, ILLINOIS

UPDATE #3
JUNE 3, 1996

<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
07/26/95	STS Consultants Ltd.	U.S. EPA	The Chicago Dock & Canal Trust Report for Characterization Investigation: Gamma Radiation Survey, Lindsay Light II Site, Chicago, IL w/Attachments A-E (3 Volumes)	1324

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II
CHICAGO, ILLINOIS

UPDATE #2 (REVISED)
APRIL 1, 1996

<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
04/22/96	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health and the Environment at the Lindsay Light II Site, Chicago, IL	40

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II
CHICAGO, ILLINOIS

UPDATE #1
SEPTEMBER 18, 1995

<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
09/00/93	Rogers & Associates Engineering Corporation	Chicago Dock & Canal Trust	Work Plan for Characterization of Radioactive Contamination, 316 East Illinois St., Chicago, Illinois: Appendix E, Supplemental; Other Sampling	17
10/05/95	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II Site	22

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
LINDSAY LIGHT II SITE
CHICAGO, ILLINOIS

ORIGINAL
May 2, 1994

<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
06/21/93	Karl, R., U.S. EPA	Klinger, J., Illinois Dept. of Nuclear Safety	Letter Illinois Dept. of Nuclear Safety	1
08/18/93	Kouris, T., Ecology & Environment, Inc.	Pfundheller, J., U.S.EPA	Letter re: Site Assessment	4
08/26/93	TMA Eberline	Ecology & Environment, Inc.	Thermoluminescent Dosimeter Badges Data	3
08/27/93	Klinger, J., Illinois Dept. of Nuclear Safety	Karl, R., U.S. EPA	Response to U.S. EPA Letter Dated 6/21/93	2
1/27/94	Muno, W., U.S. EPA	Chicago Dock & Canal Trust	Administrative Order by Consent	16
07/11/94	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum	12

ATTACHMENT B

LIABILITY FILE INDEX

1. Minutes from meetings of Lindsay Light II Company.
1922, 1924, 1925, 1929, 1931.
2. Chicago Tribune article.
July 1993.
3. 104(e) response from Kerr-McGee Corporation.
January 3, 1994.
4. Press release issued by The Chicago Dock & Canal Trust.
July 6, 1993.
5. Enforcement Confidential Addendum from Action Memo.
April 1996.

LIST OF RESPONDENTS RECEIVING UNILATERAL ADMINISTRATIVE ORDER
LINDSAY LIGHT II SITE

Kerr-McGee Chemical Corporation
c/o Richard A. Meserve, Esq.
Covington & Burling
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044-7566

Chicago Dock & Canal Trust
c/o Vincent S. Oleskiewicz, Esq.
Baker & McKenzie
One Prudential Plaza
130 East Randolph Drive
Chicago, Illinois 60601

D



KERR-McGEE

KERR-McGEE CENTER • OKLAHOMA CITY, OK • 73125

July 14, 1997

BY AIRBORNE

Mr. David J. Reynolds, P.E.
Environmental Coordinator and
Mr. Joseph Schuessler
Director of Toxic Pollution Control
Department of Environment, 25th Floor
30 North LaSalle Street
Chicago, IL 60602

Subject: Columbus Drive Measurements and Revised Map

Reference: Meeting with U.S. EPA, City of Chicago, The Chicago Dock & Canal Trust and
Kerr-McGee Chemical Corporation held June 26, 1997, at U.S. EPA's Office

Dear Mr. Reynolds and Mr. Schuessler:

As requested in the above referenced meeting, please find enclosed data package for
measurements of elevated gamma readings under Columbus Drive sidewalk.

A data package for Illinois Street measurements was delivered to you during the referenced
meeting.

Please call with any questions you have concerning this response.

Very truly yours,
KERR-McGEE CHEMICAL CORPORATION

J. D. White
Offsites Project Manager

Enclosures

cc: K. Augustyn-CD&CT, M. Krippel-KMCC, R. Meserve-C&B, F. Micke-U.S. EPA,
V. Oleskiew-B&Mc, N-E. Zusman-U.S. EPA

Gamma Measurements and Sample Analyses

North/South Face of the Excavation

Under Columbus Drive Sidewalk

LINDSAY LIGHT II - SOIL REMEDIATION REPORT

DATE: 3-26-97

MDA Values: U-238 2.1pCi/g Th-232 0.4pCi/g Ra-226 0.8pCi/g

Legend: M : <MDA Value J : Estimated

Moisture Uncorrected

CATEGORY: Excavation Support West wall 3N to 24N

AREA: #3

SAMPLE ID	Wet Net Wt. In grams		U-238 In pCi/g	+/- In pCi/g		Th-232 In pCi/g	+/- In pCi/g		Ra-226 In pCi/g	+/- In pCi/g		Total Radium In pCi/g
#1 4N 1W	21.5		2.1	1.5		1.7	0.3		1.6	0.5		3.3
#2 5N 1W	21.6		2.4	1.7		5.3	0.4		1.5	0.5		6.8
#3 8N 1W	25.7		2.2	1.3		3.4	0.3		1.3	0.4		4.7
#4 8N 1W	21.2		0.6	1.1		1.8	0.2		2.0	0.4		3.8
#5 11.5 1W	17.3	M	0.0	6.5		60.1	11.5		14.5	2.0		74.6
#6 11.5 1W	22.2	M	1.2	1.4		2.6	0.3		1.1	0.5		3.7
#7 15N 1W	25.2	M	2.0	1.1		3.5	0.2		2.3	0.4		5.8
#8 15N 1W	20.4		3.3	2.2		7.7	0.5		6.5	0.7		14.2
#9 19N 1W	18.2	M	0.0	10.0		107.9	2.4	M	0.0	2.9	J	107.9
#10 22N 1W	27.1	M	0.0	0.7		2.0	0.2		1.0	0.2		3.0

By *Grand 2*
3/28/97

88 4-2-97

1.2-5?

Analyzed by West Chicago site procedure #3, Rev. 2

Date Analyzed: 03/26/97 Time Analyzed: 1:55 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #10 22N1W

Analyzed by: RA 3-26-97

Activity is reported on AS RECEIVED basis

Weight	U-238	Th-232	Ra-226	K-40	Total Gamma
grams	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
27.1	0.0 +- 0.7	2.0 +- 0.2	1.0 +- 0.2	8.6 +- 2.4	11.65 +- 2.5

Date Analyzed: 03/26/97 Time Analyzed: 1:55 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #9 19N1W

Analyzed by: RA 3-26-97

Activity is reported on AS RECEIVED basis

Weight	U-238	Th-232	Ra-226	K-40	Total Gamma
grams	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
18.2	0.0 +- 10.0	107.9 +- 2.4	0.0 +- 2.9	0.0 +- 19.2	107.88 +- 21.9

Date Analyzed: 03/26/97 Time Analyzed: 1:54 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #8 15N1W

Analyzed by: RA 3-26-97

Activity is reported on AS RECEIVED basis

Weight	U-238	Th-232	Ra-226	K-40	Total Gamma
grams	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
20.4	3.3 +- 2.2	7.7 +- 0.5	6.5 +- 0.7	17.3 +- 6.3	34.81 +- 6.7

Date Analyzed: 03/26/97 Time Analyzed: 1:53 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #7 15N1W

Analyzed by: RA 3-26-97

Activity is reported on AS RECEIVED basis

Weight	U-238	Th-232	Ra-226	K-40	Total Gamma
grams	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
25.2	2.0 +- 1.1	3.5 +- 0.2	2.3 +- 0.4	8.3 +- 3.3	16.06 +- 3.6

Date Analyzed: 03/26/97 Time Analyzed: 1:53 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #6 11.5N1W

Analyzed by: RA 3-26-97

Activity is reported on AS RECEIVED basis

Weight	U-238	Th-232	Ra-226	K-40	Total Gamma
grams	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
22.2	1.2 +- 1.4	2.6 +- 0.3	1.1 +- 0.5	4.8 +- 4.4	9.72 +- 4.6

Bohannon
 3/28/97

Analyzed by West Chicago site procedure #3, Rev. 2

Date Analyzed: 03/26/97 Time Analyzed: 1:52 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #5 11.5N1W

Analyzed by: MR3-26-97

Activity is reported on AS RECEIVED basis

Weight : grams	U-238 pCi/g	Th-232 pCi/g	Ra-226 pCi/g	K-40 pCi/g	Total Gamma pCi/g
17.3	0.0 +- 6.5	60.1 +- 1.5	14.5 +- 2.0	-18.1 +- 13.6	56.45 +- 15.2

Date Analyzed: 03/26/97 Time Analyzed: 1:51 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #4 8N1W

Analyzed by: MR3-26-97

Activity is reported on AS RECEIVED basis

Weight : grams	U-238 pCi/g	Th-232 pCi/g	Ra-226 pCi/g	K-40 pCi/g	Total Gamma pCi/g
21.2	0.6 +- 1.1	1.8 +- 0.2	2.0 +- 0.4	9.3 +- 3.8	13.72 +- 4.0

Date Analyzed: 03/26/97 Time Analyzed: 1:50 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #3 8N1W

Analyzed by: MR3-26-97

Activity is reported on AS RECEIVED basis

Weight : grams	U-238 pCi/g	Th-232 pCi/g	Ra-226 pCi/g	K-40 pCi/g	Total Gamma pCi/g
25.7	2.2 +- 1.3	3.4 +- 0.3	1.3 +- 0.4	4.8 +- 4.0	11.65 +- 4.3

Date Analyzed: 03/26/97 Time Analyzed: 1:45 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #2 5N1W

Analyzed by: MR3-26-97

Activity is reported on AS RECEIVED basis

Weight : grams	U-238 pCi/g	Th-232 pCi/g	Ra-226 pCi/g	K-40 pCi/g	Total Gamma pCi/g
21.6	2.4 +- 1.7	5.3 +- 0.4	1.5 +- 0.5	9.4 +- 4.8	18.58 +- 5.1

Date Analyzed: 03/26/97 Time Analyzed: 1:45 Category: EXCAVATION SUPPORT
 Sample ID: 970326 Description: #1 4N1W

Analyzed by: MR3-26-97

Activity is reported on AS RECEIVED basis

Weight : grams	U-238 pCi/g	Th-232 pCi/g	Ra-226 pCi/g	K-40 pCi/g	Total Gamma pCi/g
21.5	2.1 +- 1.5	1.7 +- 0.3	1.6 +- 0.5	7.6 +- 4.7	12.98 +- 5.0

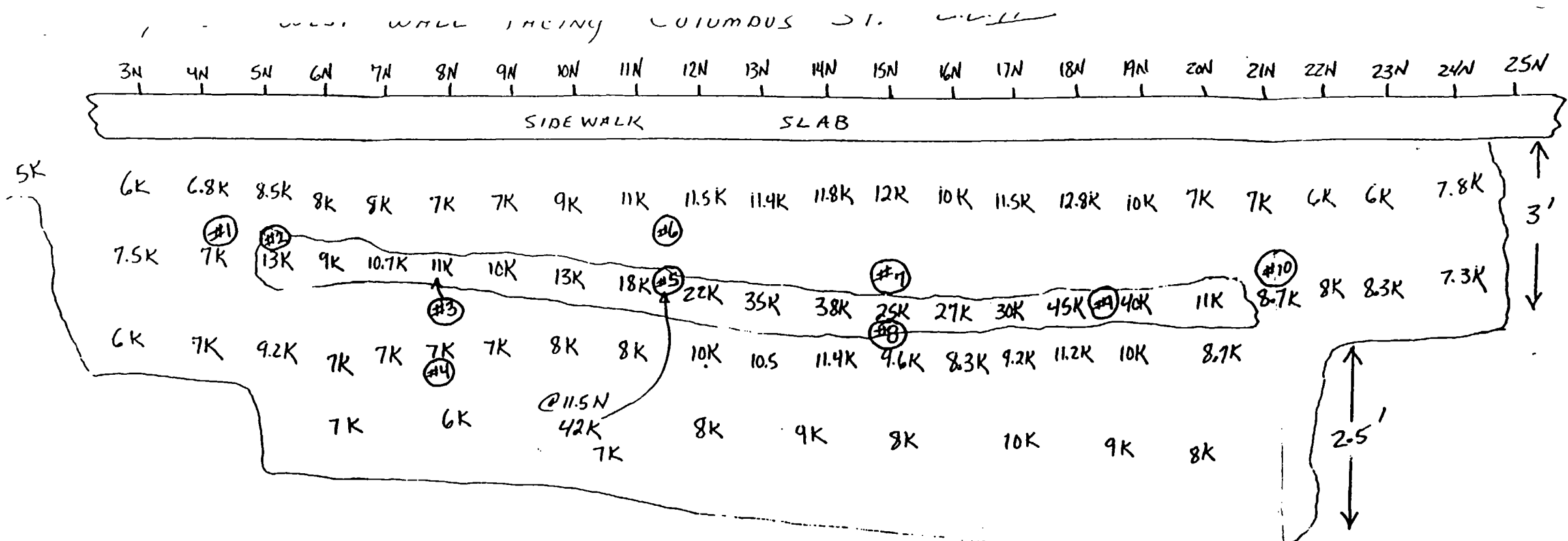
SAMPLE TRACKING FORMS

Date: 3-26-97

Page 1 of 1

Sample Number	Matrix (S/W)	Location	Collected For	Comments	Collected By
#1 4N 1W	S	AREA 3 WEST WALL	X ANALYSIS	SAMPLE TAKEN FROM (SOUTH EDGE OF CONTAMINATION)	M. Momrik
#2 5N 1W	S	↓	↓	" " (INSIDE CONTAMINATION LINE)	↓
#3 8N 1W	S			" " (INSIDE CONTAMINATION LINE)	
#4 8N 1W	S			" " (BELOW CONTAMINATION LINE)	
#5 11.5N 1W	S			" " (INSIDE CONTAMINATION LINE)	
#6 11.5N 1W	S			" " (ABOVE CONTAMINATION LINE)	
#7 15N 1W	S			" " (ABOVE CONTAMINATION LINE)	
#8 15N 1W	S			" " (INSIDE CONTAMINATION LINE)	
#9 19N 1W	S			" " (INSIDE CONTAMINATION LINE)	
#10 22N 1W	S			" " (NORTH EDGE CONTAMINATION LINE)	
				CONTAMINATION NONE FOUND (PHE)	
Released by/Company <i>Mari Momrik / Yankee</i>			All samples are listed above are hereby released except for: <i>NA</i>		Date/Time <i>3-26-97 / 1100</i>
Received by/Company <i>Mari Momrik / Yankee</i>			All samples are listed above are hereby received except for: <i>NA</i>		Date/Time <i>3-26-97 / 1100</i>
Received by/Company <i>D. Gedlicka</i>			Data for all samples listed above are hereby received except for:		Date/Time <i>3-2-97 1430</i>

*BFX Granger
3/28/97*



FACE OF EXCAVATION IS APPROXIMATELY 5 FEET EAST OF THE BACK OF THE COLUMBUS DRIVE CURB.

NOTE:

→ INDICATES LINE OF CONTAMINATION @ APPROX 4" TO 6" THICK

K → INDICATES READING IN THOUSAND

→ INDICATES EXCAVATED AREA

CM-222 / # 132825
7.2 pCi/g = 9552 cpm
M. Almaraz

SOIL SAMPLES 20g VIALS TAKEN FROM AREAS AS FOLLOWS:

- #1 @ 4N 1W (SOUTH EDGE OF CONTAMINATION LINE)
- #2 @ 5N 1W (INSIDE CONTAMINATION LINE)
- #3 @ 8N 1W (INSIDE CONTAMINATION LINE)
- #4 @ 8N 1W (BELOW CONTAMINATION LINE)
- #5 @ 11.5N 1W (INSIDE CONTAMINATION LINE)
- #6 @ 11.5N 1W (ABOVE CONTAMINATION LINE)
- #7 @ 15N 1W (ABOVE CONTAMINATION LINE)
- #8 @ 15N 1W (INSIDE CONTAMINATION LINE)
- #9 @ 19N 1W (INSIDE CONTAMINATION LINE)
- #10 @ 22N 1W (NORTH EDGE OF CONTAMINATION LINE)

COPPER REINFORCED
Made in U.S.A.

E

TABLE
TO BE PROVIDED